

No.

**SEMINOLE COUNTY GOVERNMENT
LAND PLANNING AGENCY/PLANNING AND ZONING COMMISSION
AGENDA MEMORANDUM
Continued from 12/03/03 Meeting**

SUBJECT: Myrtle Street Special Area Study – Phase III Conservation Village Concept Implementation Presentation

DEPARTMENT: Planning and Development **DIVISION:** Planning

AUTHORIZED BY: Matthew West **CONTACT:** Tony Walter **EXT.** 7375

Agenda Date 1/07/04 **Regular** ☐ **Consent** ☐ **Work Session** ☐ **Briefing** ☐
Public Hearing – 1:30 ☐ **Public Hearing – 7:00** ☒

MOTION/RECOMMENDATION:

1. RECOMMEND accepting the study and proceeding with the creation of an overlay zoning district to implement the concept with staff findings and recommendations; or
2. RECOMMEND accepting the study and proceeding with the creation of an overlay zoning district to implement the concept with alternate recommendations and comments; or
3. RECOMMEND accepting the study with no further actions; or
4. CONTINUE this item to a date and time certain.

District 5 – Commissioner McLain

Tony Walter, Assistant Planning Manager

BACKGROUND:

The Board of County Commissioners directed staff to conduct Phase III of the Myrtle Street Special Area Study to conduct further financial analysis and develop an implementation strategy for the Conservation Village Concept. Staff was also asked to look at the feasibility of providing an opportunity to apply for density bonuses to encourage development with significant public benefit as they relate to roads, water, sewer and stormwater infrastructure, preservation of upland open areas, and quality of life in Seminole County.

At its December 9, 2003 regular meeting, the Board of County Commissioners adopted two text amendments to the Seminole County Vision 2020 Comprehensive plan that facilitates implementation of the Conservation Village Design Concept in Sub

Reviewed by:
Co Atty: _____
DFS: _____
Other: _____
DCM: _____
CM: _____
File No. Z2003-024

Area – 1 of the Myrtle Street Area only. A copy of the adopted text amendments is attached.

In order to implement the Concept, staff is working with the Community Task Force to develop draft implementation language for the Land Development Code. The Conservation Village Design Concept Implementation Matrix which summarizes staff recommendations and recommendations of the two sub-groups of the Community Task Force is attached for the LPA's consideration and comment.

STAFF RECOMMENDATION:

RECOMMEND accepting the study and proceed with creating an overlay zoning district to implement the concept with staff findings and recommendations.

That the Board of County Commissioners to direct staff to:

- Draft an amendment to the Vision 2020 Comprehensive Plan to create an overlay district for Sub Area – 1 of the Myrtle Street Study area,
- Create a map and legal description of Sub Area – 1 of the Myrtle Street Study area as an overlay district to include in the Future Land Use Element of the Comprehensive Plan,
- To cap the density in Sub Area – 1 of the Myrtle Street Study area at 2 units per acre including 1 unit per acre permitted under the current land use and zoning and 1 unit per acre as an incentive bonus, and
- Finalize the draft Land Development Code language in ordinance form for consideration for adoption.

Attachment: Future Land Use, Zoning and Aerial Maps
Staff Analysis
Conservation Village Comprehensive Plan Text Amendments
Conservation Village Design Concept Implementation Matrix
Draft Conservation Village Definitions
Draft Conservation Village Design Zoning
Draft Subdivision Regulations
Builder's Guide to Low Impact Development

Myrtle Street Special Area Study Phase III Staff Report

REQUEST	Recommend that staff implement the Conservation Village Design Concept with an opportunity to apply for density bonuses in Sub Area – 1 of the Myrtle Street Special Area Study.
APPLICANT	Seminole County
PLAN AMENDMENT	Create Conservation Village Overlay District
REZONING	Create Conservation Village Zoning Overlay District
APPROXIMATE GROSS ACRES	620 acres
LOCATION	Abutting Myrtle Street east of Hester Avenue (See Map) also known as Sub Area – 1 of the Myrtle Street Special Area Study
BCC DISTRICT	District 5 – Commissioner McLain

STAFF ANALYSIS & FINDINGS

Development Trends: Development in this area is characterized by inactive agricultural, single-family residential on 1-acre or larger lots and low-density single-family development. Adjacent areas to the north and west are developing with low densities up to 4 units per acre. Within the western portion of Sub Area – 1, Autumn Chase has built out at 144 units and a density slightly over 3 units per acre. A development just east of Autumn Chase has been approved for 116 units and a density of 2.16 units per acre. Just north of Sub Area – 1 on the west side of Hester Avenue a single family development has been approved for 40 units and a density of 2.35 units per acre.

Finally, an application to change the Future Land Use from Suburban Estates to Low Density Residential has been submitted on approximately 60 acres within Sub Area – 1.

Summary of Phase III

The first task of Phase III was to review the Comprehensive Plan and Land Development Code to identify appropriate amendments to facilitate implementation of the Conservation Village Concept. Both the Comprehensive Plan and the Land Development Code already support characteristics of Conservation Village such as; preservation of character and open space, cluster development, conservation criteria, flexible lot requirements, creative design process, conservation easements, and incentives. However, Comprehensive Plan and Land Development Code changes specific to the Myrtle Street Sub Area – 1 and the Conservation Village Design Concept were required.

The public and stakeholder involvement process is the heart of Phase III. It is designed to continue involvement of residents and property owners within the study area and to inform and seek input from the development community and regulatory agencies. The Community Task Force that was established in Phase II of the study serves to review and comment on all aspects of the study. The focus groups, their purpose, members and input to date are presented below.

Member Description	Purpose	Input
<p>“Development Community” – a small group of individuals involved in local land development activities, including developers, professional services (engineers, land planners, attorneys), real estate, etc.</p>	<p>The purpose of this session was to obtain feedback on conservation design approaches and potential implementing policies or regulations, potential opportunities and constraints to such development in the area, potential infrastructure cost savings, and the potential effectiveness of incentives to encourage such practices.</p>	<p>Solid concept with significant potential and benefit. Issues of concern:</p> <ul style="list-style-type: none"> • Open space maintenance • Density & clustering reducing costs? • Incentives needed to entice and improve feasibility • Swales/ditches developed in segments may be inconsistent with a larger system <p>Myrtle Street related comments:</p> <ul style="list-style-type: none"> • Groundwater level impacts cost of infrastructure and streets • Minimum 2.5 to 3.0 DU/AC needed in area to be feasible with improvements <p>Enjoyed and appreciated opportunity for input</p>
<p>“Interagency Focus Group” a small group of individuals representing Seminole County departments and other area agencies with potential interest in conservation-oriented development (St John’s River Water Management District, state/federal environmental</p>	<p>The purpose of this session was to obtain feedback on conservation design approaches and potential opportunities and constraints to such development in the area, in terms of particular agency programs, requirements or concerns and</p>	<p>Drainage should focus on volume, diversion and water quality. Countywide vs. Myrtle Street</p> <ul style="list-style-type: none"> • Desirable as a “test balloon” for the rest of the county • Increased size of

resource agencies) etc.	potential infrastructure cost savings.	<p>developable area improves chances of success</p> <p>Primary and Secondary Conservation standards should follow current requirements.</p> <p>Determination of density should follow current format.</p> <p>Development of conservation villages by right (instead of PUD) sounds more effective.</p> <p>Maintenance endowment a MUST to maintain conservation areas.</p>
<p>“Community Task Force” property owners and residents as well as interested attendees from the Phase II study effort.</p>	<p>The purpose of these sessions was to obtain feedback on all aspects of the study.</p>	<p>The attached matrix reflects in input of the Task Force to date.</p> <p>Participants would like to present additional comments at the meeting.</p>
<p>“Land Planning Agency/ Planning & Zoning Commission”</p>	<p>Prior to the BCC public hearing staff will brief the LPA/ P&Z members on the proposed Comprehensive Plan Amendment(s) and other recommendations resulting from Phase III of the study.</p>	<p>Thought the concept is innovative and doable if the “bottom line” works.</p> <p>Liked the idea that the developer would have to “earn” additional density over 1.0 du/ac.</p> <p>Recommended additional bonus options to be explored to create more flexibility.</p> <p>This concept could be used successfully in other areas of the County.</p> <p>Thought “Endowment” fund unnecessary and a burden on developer. HOA could maintain Conservation Open Space lands.</p>

With this information staff has been conducting meetings with the Community Task Force to develop implementation language for the Land Development Code. The Task Force has evolved into two sub-groups with differing opinions on several issues. The attached matrix summarizes the general implementation issues, staffs recommendation and both groups' positions on each issue.

Conservation Village Design Process

Two elements are critical in Conservation Village Design: existing resources and site analysis map and a sketch plan.

First the existing resources and site analysis map identifies the site's undevelopable areas and those buildable lands containing features that merit conservation. Those features may range from diverse woodlands to scenic views into and out of the site. Primary and Secondary Conservation Areas are identified during this phase of the process.

The site analysis map is the most important document in the design process, as it provides the factual basis upon which all design decisions are made. Even with the map, however, it is difficult to judge the appropriateness of proposed subdivision layouts without a site visit. With the map in hand Planning and Development staff should walk the property and offer suggestions about which of the features should be saved.

Second a sketch plan and an aerial of the site outlining the overall concept is the next most important document. It may be as simple as a bubble map showing proposed areas for development and for conservation.

The sketch plan could be prepared as a tracing paper overlay placed over the existing resources and site analysis map. This method illustrates how well the proposed layout avoids the most important potential conservation lands. Ideally, the proposed development footprint shown on the sketch plan should dovetail with the most significant resources documented on the site analysis map.

This initial, broad design stage should occur before applicants spend large sums on highly engineered "preliminary" plans. Only after agreement is reached on the sketch plan should the applicant move on to the preliminary plan.

Third the number of house lots must be determined. Utilizing the process in Sec. Co.159 of the Land Development Code a simple yield plan showing the number of lots that could be created using a conventional layout. This method must realistically reflect site constraints such as wetlands and floodplains. If the applicant desires to increase the density above 1 unit per acre he must demonstrate how the requirements to achieve density bonuses will be met.

Fourth the house sites are arranged so that homeowners will be assured maximum open space views. The sites are then connected by streets and trails and the lot lines are drawn in. This approach reverses the usual sequence of steps in subdivision design.

Finally the applicant will prepare an ownership and management plan for the Greenway Land/Open Space that is set aside in a conservation easement. This plan shall identify how the Greenway Land/Open Space areas will be developed and what measures are needed to maintain it. The plan will also include estimated annual cost for maintenance and detail the proposed type of ownership of the property to insure the Greenway Land/Open Space is not used for anything other than what it is intended for.

At this point the preliminary plan is complete and ready for review and approval.

Density Bonuses

Most literature about conservation subdivision design which is called Conservation Village Design in this study indicates that development costs can vary but tend to be no greater than and in many cases less than traditional development costs. Each potential development site in Sub Area – 1 is unique to the geographic area and site conditions of each proposal. Therefore the relative development costs of Conservation Village Design compared to traditional design is also different and hard to quantify from a cost basis. However, it is reasonable to assume that the basic elements of Conservation Village Design, clustering of home sites, relaxed design standards for internal roadways and neighborhood design standard, should cost no more than traditional development in Sub Area – 1 of the Myrtle Street area.

In Phase I and II of the Myrtle Street Study nine issues were identified that can be summed up as preservation of open space, protection of natural resources and improving existing deficiencies. The Conservation Village Design Concept is to address these issues in a manner that:

- (a) protects surrounding residential development;
- (b) maintains rural character, including the ability to raise animals, as appropriate;
- (c) protects floodplain and wildlife habitats;
- (d) improves drainage, including runoff and control of pollutants;
- (e) promotes reduced infrastructure through clustering and design practices;
- (f) protects unique or attractive “viewsheds”;
- (g) minimizes water consumption;
- (h) incorporates amenities and facilities with consideration given to the surrounding environment; and,
- (i) maintains area quality of life.

For this reason staff recommended in the Conservation Village Text Amendment to the Vision 2020 Comprehensive Plan FLU 9.3 Myrtle Street Study Area Conservation Village Development Concept that “an opportunity to apply for density bonuses to encourage developments with significant public benefit as they relate to roads, water, sewer, and storm water infrastructure preservation to upland open areas and quality of life in Seminole County” be provided. The purpose of a density bonus is to offset development costs that would normally not occur. Those additional costs relate to the design and construction of water and sewer lines which are not required at the current density of 1 unit per acre, stormwater volume reduction, water quality treatment of stormwater, and restoration of natural lands.

Similar to determining the comparative costs and benefits of Conservation Village Design and traditional development, the benefits of the four incentive bonus items as related to the costs is difficult at best and is unique to the geographic area and site conditions of each proposal. Staff believes that the additional costs for design and construction of enhanced stormwater retention and water quality facilities, the elimination of septic tank impacts on the environment, and restoration of the Greenway Land/ Open Space to wetlands, wildlife habitat, or other natural state can be off-set by allowing a density incentive bonus of 1 unit per acre. The 1 unit per acre density incentive bonus should be all or nothing as would be the four development enhancements described above.

Comprehensive Plan Consistency

Plan Programs: Plan policies address the continuance, expansion and initiation of new government service and facility programs, including, but not limited to, capital facility construction. Each application for a land use designation amendment will include a description and evaluation of any Plan programs (such as the effect on the timing/financing of these programs) that will be affected by the amendment if approved.

The proposed implementation of Conservation Village Design would not alter the options or long-range strategies for facility improvements or capacity additions included in the Vision 2020 Plan. The request would not be in conflict with the Metroplan Orlando Transportation Plan or the Florida Department of Transportation's 5-Year Work Plan.

- A. Traffic Circulation – Consistency with Future Land Use Elements: *In terms of all development proposals, the County shall impose a linkage between the Future Land Use Element and the Transportation Element and all land development activities shall be consistent with the adopted Future Land Use Element (Transportation Policy 2.1).*

Myrtle Street and Hester Avenue provide access to the subject area. The roads have an average pavement width of 20 feet and the roadways are placed in substandard right of way widths averaging 50 feet. The lack of adequate drainage

facilities, substandard rights of way and pavement widths and lack of shoulders are safety concerns, not capacity issues.

The existing Level of Service (LOS) on these roads is "A", based on daily traffic volume. The adopted LOS standard for these roads is "E". At a build out density of 2.0 units per acre in Sub Area - 1 the estimated LOS is acceptable.

There is a need to bring these roadways up to County roadway standards for a 2 land rural roadway with swale drainage and retention pond(s), increased roadway width and acceptable quality of paving and sub-base. The estimated cost to improve Myrtle Street and Hester Avenue is approximately \$2.3 million based on the Phase I Study information. A traffic signal at the intersection of Hester Avenue and Ronald Regan Blvd. may also be warranted. Future developers would be responsible for participating in the cost of the traffic signal and to bring these roadways up to County standards.

Myrtle Street and Hester Avenue do not qualify as impact fee roadways. For that reason funding improvements to these roadways is problematic. Possible funding approaches County staff is reviewing include using funds from the latest sales tax initiative to address the safety issues in combination with participation from future development.

B. Water and Sewer Service – Adopted Potable Water and Sanitary Sewer Service Area Maps: *Figure 11.1 and Figure 14.1 area the water and sewer service area maps for Seminole County.*

The property is served by Seminole County water and sewer service. Future developers would be responsible for bringing these services to their respective sites if the development is at a density greater than 1 unit per acre.

C. Public Safety – Adopted Level of Service: *The County shall maintain adopted levels of service for fire protection and rescue...as an average response time of five minutes (Public Safety Policy 12.2.2).*

The property is served by the Seminole County EMS/Fire Rescue Five Points Station (Station #35). Response time to the sites is less than 5 minutes, which meets the County's average response time standard of 5 minutes.

Regulations: The policies of the Plan also contain general regulatory guidelines and requirements for managing growth and protecting the environment. These guidelines will be used to evaluate the overall consistency of the land use amendment with the Comprehensive Plan, but are not applied in detail at this stage.

A. Preliminary Development Orders: Capacity Determination: *For preliminary development orders and for final development orders under which no development activity impacting public facilities may ensue, the capacity of Category I and Category III public facilities shall be determined as follows...No rights to obtain final development orders under permits, nor any other rights to develop the subject property shall be deemed to have been granted or implied by the County's approval of the development*

order without a determination having previously been made that the capacity of public facilities will be available in accordance with law (Implementation Policy 1.2.3).

Should utility lines be extended from Hester Avenue and roadways, i.e., Myrtle Street and Hester Avenue be brought up to acceptable standards, then there would be adequate facilities to serve the subject area at densities greater than one dwelling unit per acre.

- B. Flood Plain and Wetlands Areas - Flood Plain Protection and Wetlands Protection: *The County shall implement the Conservation land use designation through the regulation of development consistent with the Flood Prone (FP-1) and Wetlands (W-1) Overlay Zoning classifications....(Future Land Use Policies 1.1, 1.2, 1.3).*

Wetlands are estimated to be approximately 29 percent of Sub Area – 1. Development of property will require wetlands to be delineated and field verified by staff from the St. Johns River Water Management District. Mitigation plans within the Lake Jesup Drainage Basin (as required by Conservation Policy 7.9) will be required for any proposed wetland impacts. It should be noted that lands within the Lake Jesup Drainage Basin have been designated by the St. Johns River Water Management District as a basin of “special status” which is reflected in the direction given in Conservation Policy 3.4 advising revisions to the Land Development Code for protection of wetlands in this basin.

The concept behind Conservation Village Design is to protect natural resources and conserve open space. Requiring significant amounts of open space and restoration of idle agricultural land and low quality wetlands to higher quality wetlands and wildlife habitat is consistent with the policies and intent of the Comprehensive Plan.

- C. Protection of Endangered and Threatened Wildlife: *The County shall continue to require, as part of the Development Review Process, that prior to development approval, proposed development to coordinate with all appropriate agencies and comply with the US Fish and Wildlife Service and the Florida Fish and Wildlife Conservation Commission Rules as well as other applicable Federal and State Laws regarding protection of endangered and threatened wildlife. (Conservation Policy 3.13)*

The concept behind Conservation Village Design is to protect natural resources and conserve open space. Requiring significant amounts of open space and restoration of idle agricultural land and low quality wetlands to higher quality wetlands and wildlife habitat is consistent with the policies and intent of the Comprehensive Plan.

Development Policies: Additional criteria and standards are also included in the Plan that describes when, where and how development is to occur. Plan development policies will be used to evaluate the appropriateness of the use, intensity, location and timing of the proposed amendment.

- A. **Compatibility:** Based upon an initial evaluation, the proposed implementation of the Conservation Village Design Concept is compatible with the surrounding land uses.

The proposed concept maximizes preservation of conservation areas and unique features of the area, encourages creative design, incorporates trail and pedestrian opportunities, promotes reduced infrastructure and impervious surfaces, and provides for stormwater infrastructure that exceeds current requirements consistent with Policy FLU 9.3 Myrtle Street Study Area Conservation Village Development Concept in the Plan.

The proposed density of 2 units per acre is slightly less than the existing and proposed developments in the western portion of Sub Area – 1 and the property to the north. This serves as a transition in density on larger open tracts of idle agricultural land to the smaller properties to the east of Sub Area – 1 which are essentially developed at 1 unit per acre.

1. **Transitional Land Uses:** *The County shall evaluate Plan amendments to ensure that transitional land uses are provided as a buffer between residential and non-residential uses, between varying intensities of residential...Exhibit Future Land Use: Appropriate Transitional Land Uses is to be used in determining appropriate transitional uses.*

Sub Area – 1 is surrounded by residential land uses or conservation areas. The extreme southwestern portion of the area is zoned industrial but is mostly undevelopable and serves as a buffer to an industrial development beyond the boundaries of the area.

The proposed density of 2 units per acre is slightly less than the existing and proposed developments in the western portion of Sub Area – 1 and the property to the north. This serves as a transition in density on larger open tracts of idle agricultural land to the smaller properties to the east of Sub Area – 1 which are essentially developed at 1 unit per acre.

2. **Consistency with Future Land Use Element:** *Definition of Suburban Estates from the Future Land Use Element...This land use is established to allow the development of large lot single family estates as a desired final land use; act as a transitional use between urban development and general rural uses; and to allow existing agricultural operations to continue until developed for other uses.*

Provide homeowners and homebuyers reasonable assurance of the intensity of development to be expected in the future for surrounding parcels of property. (Future Land Use Policy 2.10B)

The definition of Suburban Estates states that this land use category is not a holding category awaiting urbanization but one that allows for the development of large lot single family estates as a desired final land use as well as act as a transitional use between urban development and general rural uses. The Conservation Village Concept when developed at no greater than 1 unit per acre is consistent with the Future Land Use Element. If the opportunity to increase the density to more than 1 unit per acre is implemented, a Comprehensive Plan amendment will need to be processed. The proposed amendment would be to create a Conservation Village Overlay District and

add a map to the Future Land Use Element describing Sub Area – 1 as the boundaries of that district.

- B. **Concurrency Review - Application to New Development:** *For purposes of approving new development subsequent to adoption of this Comprehensive Plan, all adopted public safety level of service standards and schedules of capital improvements...shall be applied and evaluated...consistent with policies of the Implementation Element...(Capital Improvements Policy 3.2)*

This policy provides for the adoption of level of service (LOS) standards for public facilities and requires that final development orders be issued if public facilities meeting the adopted LOS are available or will be available concurrent with the development. Additionally, preliminary development orders shall only be issued with the condition that no rights to obtain final development orders or development permits, or any other rights to develop the subject property are granted or implied by the County's approval of the preliminary development order.

Coordination: Each application for a land use designation amendment will be evaluated to assess how and to what extent any additional intergovernmental coordination activities should be addressed.

- A. **Plan Coordination:** *The County shall continue to coordinate its comprehensive planning activities with the plans and programs of the School Board, major utilities, quasi-public agencies and other local governments providing services but not having regulatory authority over the use of land (Intergovernmental Coordination Policy 8.2.12). Seminole County shall coordinate its comprehensive planning activities with the plans and programs of regional, State and Federal agencies ...as the County is now a charter County (Intergovernmental Coordination Policy 8.3.3)*

The Conservation Village Design Concept was adopted as a text amendment into the Vision 2020 Plan on December 9, 2003. All future amendments to the Plan related to implementation of Conservation Village Design will comply with all regional, state and federal agencies policies and processes.

Staff Recommendation:

RECOMMEND accepting the study and proceed with creating an overlay zoning district to implement the concept with staff findings and recommendations.

That the Board of County Commissioners to direct staff to:

- Draft an amendment to the Vision 2020 Comprehensive Plan to create an overlay district for Sub Area – 1 of the Myrtle Street Study area,
- Create a map and legal description of Sub Area – 1 of the Myrtle Street Study area as an overlay district to include in the Future Land Use Element of the Comprehensive Plan,
- To cap the density in Sub Area – 1 of the Myrtle Street Study area at 2 units per acre including 1 unit per acre permitted under the current land use and zoning and 1 unit per acre as an incentive bonus, and
- Finalize the draft Land Development Code language in ordinance form for consideration for adoption.

CONSERVATION VILLAGE TEXT AMENDMENTS

OBJECTIVE FLU SPECIFIC AREA PLANS

Amendment 03F.TXT03.1 New Policy

Policy FLU 9.3 Myrtle Street Study Area Conservation Village Development Concept

The County shall provide for creative design concepts focused on preservation of natural open spaces, sensitive lands and area character within planned unit developments in the Myrtle Street Special Study area to:

- A Maximize preservation of conservation areas and unique features of the site;
- B Encourage creative design by clustering homes into "villages" surrounded by natural open spaces;
- C Incorporate trail and pedestrian opportunities;
- D Promote enhanced street systems resulting in reduced infrastructure and impervious surfaces;
- E Provide for storm water conveyance and retention that exceeds on-site requirements; and
- F Provide for an opportunity to apply for density bonuses to encourage developments with significant public benefit as they relate to roads, water, sewer and storm water infrastructure, preservation of upland open areas, and quality of life in Seminole County.

Amendment 03F.TXT03.2 Addition to Issues and Concerns

Issue FLU 7 Special Area Plans and Evaluation and Appraisal Report Amendments

Since Plan adoption in 1991, several areas of the County have been identified as requiring more effective growth management techniques and community consensus building to ensure consistency with the goals and objectives of the Future Land Use Element. To address these concerns, several special area studies have been completed. Included among these is the "GreeneWay/SR 434 Small Area Study" (1994), "Airport Area Land Use Study" (1995), Northwest HIP Study (1995 and associated North I-4 Target Area Master Plan in 1996), "Chuluota Small Area Study" (1999), "Wekiva Special Area Study" (1999), and "Myrtle Street Special Area Study (2003)".

These studies have resulted in future land use amendments and/or policy amendments to the Plan to manage growth and development more effectively.

Additionally, in 1999, upon evaluation of the *Exhibit FLU: Future Land Use Map*, the County adopted a number of administrative future land use amendments on properties throughout the County where it was determined that the existing future land use designation was no longer appropriate. These future land use amendments and amendments resulting from the Chuluota Small Area Study and Wekiva Special Area Study were identified in the County's 1999 Evaluation and Appraisal Report found sufficient by the Florida Department of Community Affairs.

CONSERVATION VILLAGE DESIGN CONCEPT IMPLEMENTATION MATRIX

	Ref. Section	Initial Strategy Recommendation	Staff Recommendation	Group A Recommendation	Group B Recommendation	LPA/P&Z Recommendation
	Part 69 - C. V. Design		LAND DEVELOPMENT CODE - ZONING			
1	30.1322 ©	Greenway Land/ Open Space minimum required - 50% calculated after Primary Conservation Areas are deducted.	Concur with 50% minimum	Concur	50% is to high, reduce to a lower percentage using a sliding scale based on tract size. Suggest 30%	
2	30.1322©	Primary Conservation Areas to include wetlands, floodplains and other areas protected by current state, local & federal regulations. (historic sites, etc)	Consider an incentive for restoration of poor quality wetlands. Consider some impacts with compensating storage to floodplains to allow for reasonable installation of infrastructure.	Concur	Allow for mitigation for impacting poor quality wetlands and providing compensating storage in floodplains.	
3	30.1322©	Secondary Conservation Areas to include natural or unique features such as woodlots, viewsheds & culturally significant sites not already protected.	Promote but not require inclusion in Greenway Land/ Open Space.	Concur	Concur	
4	30.1322(d)	Permanent Conservation Easement required for Greenway Land/ Open Space prohibiting future development and defining range of permitted activities.	Concur with permanent conservation easement requirement,	Concur	Concur	

CONSERVATION VILLAGE DESIGN CONCEPT IMPLEMENTATION MATRIX

	Ref. Section	Initial Strategy Recommendation	Staff Recommendation	Group A Recommendation	Group B Recommendation	LPA/P&Z Recommendation
5	30.1322 (e)	Maintenance Endowment required for Greenway Land/ Open Space to provide for fiscal support of maintenance and cost offset by incentive bonus. (density)	Keep endowment as an option but not as a bonus.	Concur with concept, exclude the incentive offset.	Prefer the traditional HOA methodology for common area maintenance.	
6	30.1326(2)	HOA shall provide an annual report on the condition of the Greenway Land/ Open Space prepared by as qualified individual or firm. The content of the report will be determined as part of the Greenway Land/ Open Space design and maintenance plan development	Concur - This may include water quality analysis of storm water treatment infrastructure, wetlands evaluation, arbor evaluation, etc. Include the requirement that a licensed/certified professional of the appropriate discipline will provide the design and maintenance plan for the Greenway Land/ Open Space areas. Delete fee simple dedication to the County.	Concur	Concur	

CONSERVATION VILLAGE DESIGN CONCEPT IMPLEMENTATION MATRIX

	Ref. Section	Initial Strategy Recommendation	Staff Recommendation	Group A Recommendation	Group B Recommendation	LPA/P&Z Recommendation
7	30.1322 (f)	Require Existing Resources and Site Analysis Plan that demonstrates how the Primary Conservation Areas, Greenway Lands/ Open Space and Secondary Conservation Areas will be protected, how they will function and relate internally.	Concur with recommended process. (Ref. No. 6 above.)	Concur	Concur	
8	30.1323 (a) (1)	Determination of Density calculated by utilizing process in Sec. 30.159 that extracts Primary Conservation Areas and anticipated space required for infrastructure. (Related to #2 above)	Concur with process which should take place as part of the 4-step process. Final approval of the density is when a preliminary plan is completed.	Concur	Concur	
9	30.1323 (a) (2)	Determination of Density 80/20 methodology. Also to allow developer to take credit for areas originally included in the 20% set aside for infrastructure if all of the set aside is not used.	Eliminate 80/20 if CV concept is selected.	Concur	Concur	

CONSERVATION VILLAGE DESIGN CONCEPT IMPLEMENTATION MATRIX

	Ref. Section	Initial Strategy Recommendation	Staff Recommendation	Group A Recommendation	Group B Recommendation	LPA/P&Z Recommendation
10	30.1323 (b)	Building Area 9,000 sq ft minimum lot size and lot width.	Eliminate minimum lot size and width. Direct developer to place building pads in the most appropriate location providing for off street parking of 4 vehicles and meeting building and safety code requirements.	Concur	Concur	
11	30.1323 ©	Yard Regulations - Front 25', Side 15', Rear 35'	Eliminate set backs. Direct developer to place building pads in the most appropriate location meeting building and safety code requirements.	Concur	Concur	


 David A. Smith
 Planning Director

CONSERVATION VILLAGE DESIGN CONCEPT IMPLEMENTATION MATRIX

	Ref. Section	Initial Strategy Recommendation	Staff Recommendation	Group A Recommendation	Group B Recommendation	LPA/P&Z Recommendation
12	30.1324 (a)	Permitted Greenway Uses - Conservation (woodlot, wetland, managed meadow); agricultural (horticulture, raising of crops or livestock); pastureland (horses for recreation, equestrian facilities); forestry; neighborhood open space (village greens, picnic areas, community gardens, trails, low impact passive recreational uses); active non-commercial recreation areas (playing fields, playgrounds, courts, bikeways); water supply & sewage disposal, stormwater detention (if landscaped); easements (drainage, access, sewer or water lines)	Delete raising of livestock, commercial agriculture (horticulture, raising of crops or livestock), sewer disposal. Limit non- commercial recreation to meet the needs of immediate neighborhood with no lighting.	Concur with concern about excessive intensity of non- commercial recreation.	Concur. 35' seems excessive.	

CONSERVATION VILLAGE DESIGN CONCEPT IMPLEMENTATION MATRIX

	Ref. Section	Initial Strategy Recommendation	Staff Recommendation	Group A Recommendation	Group B Recommendation	LPA/P&Z Recommendation
13	30.1324 (b)	Greenway Design Standards - lands to be layed out to ensure that an interconnected network of open space is provided. Connection to adjacent strongly encouraged. 150' buffers if adjoins public parkland.	Concur with recommendation of 150' buffer if adjacent to active park land and reduce to 50' if adjacent public park land that is passive in nature. Connectivity to be determined as part of iterative design process through County DRC.	Concur	Concern with connecting to adjacent property. 150' buffer seems high	
14	30.1324 ©	Neighborhood Development Standards setback requirements - 100' from external road ultimate r-o-w; 50' from all other tract boundaries; 100' from cropland or pasture; 300' from building housing livestock; 150' from active recreation areas	Commercial agriculture & raising livestock is not allowed, delete setbacks from cropland, pasture & buildings housing livestock. Change Myrtle Street & Hester roadway setback to 140' from center line. Set back from all other roadways is 50' from right of way line.	Concur	External roadway & tract setbacks are excessive. Concur with set back from Myrtle Street. Allow design team to determine other external setbacks as part of the design process.	
15	30.1324 © (5)	At least 3/4 of lots shall directly abut or face greenway/ open space across a street.	Reduce requirement to 60%.	Concur	Delete requirement. Allow project design team to create as many premium lots (abutting the greenway/ open space) as possible.	

CONSERVATION VILLAGE DESIGN CONCEPT IMPLEMENTATION MATRIX

	Ref. Section	Initial Strategy Recommendation	Staff Recommendation	Group A Recommendation	Group B Recommendation	LPA/P&Z Recommendation
16	30.1324 (d) (2)	Each neighborhood shall provide one centrally located access point per 15 lots, a minimum of 35' wide.	At least 1 unpaved stabilized access point to each Greenway Lands/ Open Space/ Common Area 25' wide shall be provided. Total number of access points to be determined during iterative design through DRC.	Concur	Concur. 35' seems excessive.	
17	30.1326	Ownership and maintenance options for Greenway Lands/ Open space. (related to #5 above)	Concur with recommendations. No preference between endowment and HOA. Keep endowment as an option, but not a requirement.	Concur	Concur	

DENSITY INCENTIVE BONUSES

			Incentive bonus not exceed 1.0 du/ac. Total density not to exceed 2.0 du/ac. All incentive bonus must be applied to qualify.	Bonuses are not required. Documentation indicates an overall cost savings with the concept. Would consider 1/2 du/ac bonus.	Need 2.5 du/ac or more to make projects cost feasible.	
18	30.1325 (a)	Endowment for Greenway Maintenance (Required) - 0.3 du/ac	Not a density incentive bonus item. Remains an option for Greenway Land/ Open Space ownership.	Concur	Delete	

CONSERVATION VILLAGE DESIGN CONCEPT IMPLEMENTATION MATRIX

	Ref. Section	Initial Strategy Recommendation	Staff Recommendation	Group A Recommendation	Group B Recommendation	LPA/P&Z Recommendation
19	30.1325 (b)	Water/Sewer Connection - 0.4 du/ac	Mandatory for any densities over 1 unit per acre.	Delete	Increase to 0.6 du/ac	
20	30.1325 ©	Stormwater Volume Reduction Incentive Bonus - 0.6 du/ac	Mandatory to qualify for incentive bonus.	Delete		
21	30.1725 (d)	Water Quality Treatment 0.2 du/ac	Mandatory to qualify for incentive bonus.	Reduce to 0.125 du/ac.	Concur with recommendation	
22	New	Restoration of Natural Land	Mandatory to qualify for incentive bonus. Restoration plan to be part of the Ownership and Management Plan and set at preliminary plan approval.	0.125 du/ac incentive bonus would be appropriate	Need to be determine what is required for restoration. See this as a potential significant development cost.	

CONSERVATION VILLAGE DESIGN CONCEPT IMPLEMENTATION MATRIX

	Ref. Section	Initial Strategy Recommendation	Staff Recommendation	Group A Recommendation	Group B Recommendation	LPA/P&Z Recommendation
--	-------------------------	--	---------------------------------	-----------------------------------	-----------------------------------	---------------------------------------

LAND DEVELOPMENT CODE - SUBDIVISION REGULATIONS

23	35.42 (k)	Existing Resources and Site Analysis submittal required to identify significant features. (primary & secondary conservation areas, cultural or historical sites, prominent views, easements)	Required as an integral part of designing a Conservation Village.			
24	35.42 (l)	Sketch and final Four Step Design Process which illustrates the design process as part of Preliminary Plan.	Required as an integral part of designing a Conservation Village.			
25	35.43 (17)	Greenway Ownership and Management Plan as part of Preliminary Plan.	Required as an integral part of a sustainable Conservation Village.			
26	35.43 (18)	Preliminary Resource Impact and Conservation Plan as part of Preliminary Plan.	Required as an integral part of designing a Conservation Village.			
27	35.62 (g)	Street design to be determined with the Four Step Design Process. (narrower pavement, sidewalks, drainage)	Required as an integral part of designing a Conservation Village.			

CONSERVATION VILLAGE DESIGN CONCEPT IMPLEMENTATION MATRIX

	Ref. Section	Initial Strategy Recommendation	Staff Recommendation	Group A Recommendation	Group B Recommendation	LPA/P&Z Recommendation
28	35.63 (e)	Blocks and Lots to be determined with the Four Step Design Process.	Required as an integral part of designing a Conservation Village.			
29	35.71	Fences - maximum 25% opaque, natural materials and excluding block, brick, concrete & stucco, enhance open character and viewsheds	Required as an integral part of a sustainable Conservation Village.			
30	35.71	Buffers - retain existing natural cover and wooded areas and/or suitable landscaping; include sidewalk or trail suitable for joint use of pedestrians and bicycles.	Required as an integral part of a sustainable Conservation Village.			
31	35.71	Greenway Design - prioritize list of resources to be preserved, public access and uses.	Required as an integral part of designing a Conservation Village.			

DRAFT CONSERVATION VILLAGE DEFINITIONS

Existing Resources and Site Analysis Plan: Identifies significant features including Primary and Secondary Conservation Areas, soils classification, topography, other natural features, floodplains, utilities, prominent views into the site from public roads, parks or other areas of public interest, easements, and other pertinent features as determined on a case by case basis.

Four Step Design Process: An iterative process to include one or more sketches that present the process utilized in developing a Conservation Village:

- Greenway Lands/Open Space
- House Sites including architectural concepts
- Streets and Trails
- Lot Lines

Greenway Land/Open Space: Includes Primary and Secondary Conservation Areas and common open space that may include the following uses; neighborhood open space (village greens, picnic areas, community gardens, trails, low impact passive uses, un-lit playing fields, playgrounds, tennis courts, trails, community pools), and stormwater detention and retention (if amenitized).

Greenway Ownership and Management Plan: A plan detailing the entities responsible for maintaining various elements of the property, and describing fiscal and physical management objectives and techniques for each part of the property to include:

- A description of all lands and facilities including a map of the proposal highlighting the precise location of those lands and facilities.
- A copy of the Existing Resources and Site Analysis Map.

Maintenance Endowment: A method where by the developer/owner sets aside a sufficient amount of money in an endowment that will yield enough funds annually to maintain the Greenway Land/Open Space established for the development.

Permanent Conservation Easement: An easement granting a right or interest in real property which is appropriate to retaining land or water areas predominately in their natural, scenic, open or wooded condition; retaining such areas a suitable habitat for fish, plants, or wildlife; or maintaining existing land use. That intent and meaning given in Section 704.06, Florida Statutes, or its successor.

Preliminary Resource Impact and Conservation Plan: A plan to address impacts of proposed land development alternations on critical resources indicated as part of the Existing Resources and Site Analysis Map which clearly demonstrates that the plan has minimized site disturbance to the greatest extent practicable. To

include grading, fill, streets, buildings, utilities and stormwater detention/retention facilities.

Primary Conservation Area: Includes wetlands, floodplains and other areas protected by current state, local & federal regulations. (historic buildings & sites, etc.) These areas to be determined as part of the Existing Resources and Site Analysis Plan.

- Wetlands: Areas which are identified by being inundated or saturated by surface or ground water with a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soils conditions. Determination to be consistent with Unified Wetland Delineation Methodology.
- Floodplains: All areas below the 100-year flood elevation.

Secondary Conservation Area: Includes natural or unique features such as woodlots, viewsheds, culturally significant sites not already protected from development. These areas to be determined as part of the Existing Resources and Site Analysis Plan.

Sketch Plan: A sketch plan outlines the overall development concept. It may be as simple as a bubble map showing proposed areas for development, conservation, stormwater treatment areas, and access points. The sketch plan can be prepared as a tracing paper overlay placed over the existing resources and site analysis map and/or aerial map.

PART 69. Conservation Village Design

Sec. 30.1321. Purpose.

The purpose of the Conservation Village option is to preserve open space and protect natural resources through creative design techniques in a manner that:

- (a) protects surrounding residential development;
- (b) maintains rural character, including the ability to raise animals, as appropriate;
- (c) protects ~~and utilizes wetlands,~~ floodplain and wildlife habitats;
- (d) improves drainage, including runoff and control of pollutants;
- (e) promotes reduced infrastructure through clustering and design practices;
- (f) protects unique or attractive "viewsheds";
- (g) minimizes water consumption;
- (h) incorporates amenities and facilities with consideration given to the surrounding environment; and,
- (i) maintains area quality of life.

Sec. 30.1322. General Requirements

The design of Conservation Villages shall incorporate the following minimum standards:

- (a) Ownership: The tract of land may be held in single and separate ownership or in multiple ownership. However, when a tract is held in multiple ownership, it shall be planned as a single entity with common authority and common responsibility.
- (b) Site Suitability: As evidenced by the Existing Resources/Site Analysis Plan, Development Plan, Preliminary Plan, and the Final Engineering Plan and Plat, the tract incorporating this design option shall be suitable for supporting development in terms of environmental conditions, its size, and configuration.
- (c) Greenway Land Requirement: A minimum of 50 percent of a site designated as Conservation Village must be preserved as greenway land in addition to preservation of all Primary Conservation Areas. The required greenway land consists of Secondary Conservation Areas. Primary Conservation Areas shall be comprised of those floodplains, wetlands, and other elements protected from development. Secondary Conservation Areas include natural or unique features of the property, such as woodlots, viewsheds and culturally significant sites that are not protected from development that add to the character of the area but might be otherwise overlooked during the design process.

- (d) Conservation Easement: Required greenway land shall be subject to permanent conservation easements prohibiting future development and defining the range of permitted activities. Easement language shall be based upon text established for conservation easements related to cluster development in agricultural districts as noted in Section 30.111.
- (e) Maintenance Endowment: A maintenance endowment ~~shall be required~~ is an option for all Conservation Villages to provide fiscal support for maintenance of greenways and improvements within greenways. ~~Cost of the maintenance endowment is offset by a density bonus established in Section 30.1325.~~
- (f) Sensitive Area Disturbance: The proposed design shall strictly minimize disturbance of environmentally sensitive areas, as shown on the Existing Resources and Site Analysis Plan. Lands within the 100-year floodplain, wetlands and historically significant sites constitute such environmentally sensitive areas, where disturbance shall be strictly minimized. Demonstration by the applicant that these features will be protected by the proposed application shall be a prerequisite to approval of both the Preliminary Plan and the detailed Final Engineering Plan.

Sec. 30.1323. Density Determination and Dimension Standards

(a) Determination of Density

- (1) Density shall be calculated utilizing the process established in Section 30.1359 that extracts Primary Conservation Areas and anticipated space required for infrastructure.
- (2) ~~If, by clustering units and incorporating reduced lot requirements permitted in this section, a developer or owner is able to meet County infrastructure requirements without utilizing the full 20 percent of the site set aside in Section 30.1359, the developer may utilize the remainder for purposes of additional buildable area. If the Board is satisfied that infrastructure requirements will be appropriately met, the remaining area may be developed at the same density as the initial Net Buildable Acreage.~~

(b) Building Site Area Regulations

Each single-family dwelling structure located in RC-1 and utilizing the Conservation Village design shall be located on a lot or parcel of land having ~~an area of not less than nine thousand (9,000) square feet and a minimum of seventy-five (75) feet at the building line~~ adequate lot size and width to achieve the goals of Conservation Village design and meet all applicable building, fire and safety codes.

(c) Yard Regulations

~~The following minimum front, side and rear yard setbacks shall be observed with regard to all primary structures~~

- (1) ~~Front. Twenty-five (25) feet.~~

~~(2) Side. Fifteen (15) feet.~~

~~(3) Rear. Thirty five (35) feet.~~

Minimum front, side and rear yard setbacks shall be adequate to achieve the goals of Conservation Village design and meet all applicable building, fire and safety codes.

Sec. 30.1324. Greenway Land Use and General Design Standards

Protected greenway land in all subdivisions shall meet the following standards:

(a) Uses Permitted On Greenway Lands

The following uses are permitted by right in greenway land areas of Conservation Villages:

- (1) Conservation of open land in its natural state (for example, woodlot, wetland, or managed meadow);
- (2) ~~Agricultural and horticultural uses, including raising crops or livestock, wholesale nurseries, associated buildings, excluding residences that are specifically needed to support an active, viable agricultural or horticultural operation. Specifically excluded are commercial livestock operations involving swine, poultry, mink, and other animals likely to produce highly offensive odors.~~
- (3) Pastureland for horses used solely for recreational purposes. Equestrian facilities shall be permitted but may not consume more than half of the minimum required greenway land.
- (4) ~~Forestry, in keeping with established best management practices for selective harvesting and sustained yield forestry.~~
- (5) Neighborhood open space uses such as village greens, commons, picnic areas, community gardens, trails, and similar low-impact passive recreational uses, specifically excluding motorized off-road vehicles, rifle ranges, and other uses similar in character and potential impact as determined by the Board of County Commissioners.
- (6) Active non-commercial recreation areas, such as playingfields, playgrounds, courts, and bikeways, provided such areas do not consume more than half of the minimum required greenway land or five acres, whichever is less. Playingfields, playgrounds, and courts shall not be located within 100 feet of abutting properties. Parking facilities for the same shall also be permitted, and they shall generally be gravel-surfaced, unlighted, properly drained, provide safe ingress and egress, and contain no more than ten parking spaces.
- (7) ~~Water supply and sewage disposal systems, and Stormwater detention~~ areas designed, landscaped, and available for use as an integral part of the greenway.

- (8) Easements for drainage, access, sewer or water lines, or other public purposes;
 - (9) ~~Underground utility rights-of-way.~~ Above-ground utility and street rights-of-way may traverse conservation areas but shall not count toward the minimum required greenway land.
- (b) Greenway Design Standards
- (1) Greenway lands shall be laid out to ensure that an interconnected network of open space will be provided on site. Interconnection with adjacent, but offsite, open space strongly encouraged.
 - (2) Buffers for Adjacent Public Parkland: Where the proposed development adjoins active public parkland, a natural greenway buffer at least one-hundred-fifty (150) feet deep shall be provided within the development along its common boundary with the parkland, within which no new structures shall be constructed, nor shall any clearing of trees or understory growth be permitted (except as may be necessary for street or trail construction). Where this buffer is unwooded, ~~the Board may require~~ vegetative screening may be required to be planted, or that it be managed to encourage natural forest succession through "no-mow" policies and the periodic removal of invasive alien plant and tree species. Where the proposed development adjoins low impact passive public parkland, a natural greenway buffer of at least fifty (50) feet shall be provided within the development along its common boundary with the parkland.
- (c) Neighborhood Development Standards
- (1) Houselots shall not encroach upon Primary Conservation Areas and their layout shall respect Secondary Conservation Areas as identified in the Existing Resources/Site Analysis Plan.
 - (2) All new dwellings shall meet the following setback requirements:
 - (i) ~~From all major external roadways ultimate right-of-way - 100 feet~~
140 feet from the center line
 - * From all other external right-of-way - 50 feet
 - (ii) From all other tract boundaries - 50 feet
 - (iii) ~~From cropland or pasture land - 100 feet~~
 - (iv) From buildings or barnyards housing livestock - ~~300 feet~~ 100 feet
 - (v) ~~From active recreation areas such as courts or playing fields - 150 feet~~
 - (3) Views of houselots from exterior roads and abutting properties shall be minimized by the use of existing vegetation or additional landscaping

which meets the landscaping requirements of the Subdivision and Land Development Ordinance.

- (4) Houselots shall generally be accessed from interior streets, rather than from roads bordering the tract.
 - (5) At least ~~three-quarters~~ sixty percent (60%) of the lots shall directly abut or face greenway land across a street.
- (d) Other Standards
- (1) No portion of any building lot may be used for meeting the minimum required greenway land. However, active agricultural land with farm buildings, excluding areas used for residences, may be used to meet the minimum required greenway land.
 - (2) Pedestrian and maintenance access, excluding those lands used for agricultural or horticultural purposes shall be provided to greenway land in accordance with the following requirements:
 - (i) Each neighborhood shall provide one centrally located access point ~~per 15 lots to each greenway, public or common area~~ a minimum of ~~thirty-five (35)~~ twenty five (25) feet in width.
 - (ii) Access to greenway land used for agriculture may be appropriately restricted for public safety and to prevent interference with agricultural operations.
 - (3) All greenway land areas that are not wooded or farmed shall be restored landscaped in accordance with landscaping requirements of the Land Development Code or managed in to a natural state, such as wetlands or managed meadows as illustrated as a part of the Ownership and Management Plan and be part of the density bonus.

Sec. 30.1325. Density Bonuses

Additional density may be allowed by the Board of County Commissioners when ~~one~~ all of the following public benefits ~~is~~ are proposed:

- (a) ~~Endowment for Greenway Maintenance (Required)~~
 - (1) ~~A density bonus of 0.3 DU/AC is granted to any Conservation Village development to generate additional income to the applicant for the sole purpose of endowing a permanent fund to offset a portion of continuing costs of maintaining the greenway land (involving activities such as mowing meadows, removing invasive vines, paying insurance premiums and local taxes, etc.), including costs associated with active or passive recreation facilities. Spending from this fund should be restricted to expenditure of interest so that the principal may be preserved. Assuming an annual average interest rate of five percent, the amount designated for the Endowment Fund shall be at least twenty (20) times the estimated annual maintenance costs. Such estimate shall be prepared by an agency, firm, or organization~~

~~acceptable to the Board, and with experience in managing conservation land and recreational facilities.~~

- ~~(2) Because additional dwellings, beyond the maximum that would ordinarily be permitted, may reasonably be considered to be net of development costs and represent true profit, 75% of the net selling price of the endowment lots shall be donated by the applicant to the Greenway Maintenance Endowment Fund for the greenway lands within the subdivision. This fund shall be transferred by the developer to the designated entity with ownership and maintenance responsibilities, at the time this entity is created.~~
- ~~(3) When estimating the projected maintenance costs of the greenway land, greenway land that is not accessible by the subdivision residents for their common enjoyment need not be included in the calculations. Such lands would typically include areas designated on the Final Plan for Conservancy Lots or as land reserved for future agricultural, horticultural, silvicultural, or equestrian uses, which may be leased or sold to another party for those express purposes, and which are protected from future development by a permanent conservation easement. In such cases, the density bonus shall be adjusted proportionately to reflect only the acreage that is accessible to residents for their passive or active recreation.~~

(b) Water/Sewer Connection

~~A density bonus of 0.4 DU/AC is granted to any Conservation Village development for which water and sewer connection is not required in which the developer or owner selects to utilize municipal water and wastewater services.~~

Conservation Village development with a density over 1 unit per acre is required to connect to water and sewer.

(c) Stormwater Volume Reduction (Stormwater Volume)

~~A density bonus of 0.6 DU/AC shall be granted to Conservation Village development is required that to incorporates stormwater volume reduction into site design and implementation. To qualify, the development shall provide a reduction in volume by retaining on-site the difference between pre-development and post-development runoff volume for a 25 year/24 hour storm event. Recovery of 75 percent of volume shall occur within 72 hours of the storm event. Natural areas utilized to meet this requirement that are not existing Primary Conservation Areas, such as reconstructed, managed wetlands, shall qualify as part of open space requirements.~~

(d) Water Quality Treatment (Stormwater Quality)

~~A density bonus of 0.2 DU/AC shall be granted to Conservation Village development that is required to address stormwater quality treatment through an offline stormwater management system. To be eligible, the system requires that sediment forbays equal to 1/2 of the water quality volume as required by St.~~

John's River Water Management District be located upstream of water quality treatments.

(e) Conservation Village development is required to develop a restoration of natural lands plan as part of the Ownership and Management Plan for the Greenway Lands/Open Space conservation area.

Sec. 30.1326. Ownership and Maintenance of Greenway Land and Common Facilities

(a) Development Restrictions

All greenway land shall be permanently restricted from future subdivision and development. Under no circumstances shall any development be permitted in the open space at any time, except for those uses listed in Section 30.1324.

(b) Ownership Options

The following methods may be used, either individually or in combination, to own greenway land and common facilities. Common facilities shall not be transferred to another entity except for transfer to another method of ownership permitted under this section, and then only when there is no change in the common facilities or in the open space ratio of the overall development. Ownership methods shall conform to the following:

- ~~(1) Fee Simple Dedication to the County. The County may, but shall not be required to, accept any portion of the common facilities, provided that:~~
 - ~~(i) There is no cost of acquisition to the County; and,~~
 - ~~(ii) The County agrees to and has access to maintain such facilities.~~
- (2) Homeowners' Association. Common facilities may be held in common ownership by a homeowners' association, subject to all of the provisions for homeowners' associations set forth in state regulations and statutes. In addition, the following regulations shall be met:
 - (i) The applicant shall provide the County a description of the organization of the proposed association, including its by-laws, and all documents governing ownership, maintenance, and use restrictions for common facilities;
 - (ii) The proposed association shall be established by the owner or applicant and shall be operating (with financial subsidization by the owner or applicant, if necessary) before the sale of any dwelling units in the development;
 - (iii) Membership in the association shall be automatic (mandatory) for all purchasers of dwelling units therein and their successors in title;
 - (iv) The association shall be responsible for maintenance and insurance of common facilities;

- (v) The by-laws shall confer legal authority on the association to place a lien on the real property of any member who falls delinquent payment of dues. Such dues shall be paid with the accrued interest before the lien may be lifted;
 - (vi) Written notice of any proposed transfer of common facilities by the association or the assumption of maintenance for common facilities must be given to all members of the association and to the County no less than thirty days prior to such event; and
 - (vii) The association shall have adequate staff to administer, maintain, and operate such common facilities.
- (3) ~~Private Conservation Organization or the County.~~ With permission of the County, an owner may transfer either fee simple title of the open space or easements on the open space to a private non-profit conservation organization ~~or to the County~~ provided that:
- (i) The conservation organization is acceptable to the County and is a bona fide conservation organization intended to exist indefinitely;
 - (ii) The conveyance contains appropriate provisions for proper reverter or retransfer in the event that the organization ~~or Seminole County~~ becomes unwilling or unable to continue carrying out its functions;
 - (iii) The greenway land is permanently restricted from future development through a conservation easement and the County is given the ability to enforce these restrictions; and
 - (iv) A maintenance agreement acceptable to the County is established between the owner and the organization ~~or Seminole County~~.
- (4) Dedication of Easements to the County. The County may, but shall not be required to, accept easements for public use of any portion of the common land or facilities. In such cases, the facility remains in the ownership of the homeowners' association, or private conservation organization while the easements are held by the County. In addition, the following regulations shall apply:
- (i) There shall be no cost of acquisition to the County;
 - (ii) Any such easements for public use shall be accessible to the residents of the County; and
 - (iii) A satisfactory maintenance agreement shall be reached between the owner and the County.
- (c) Maintenance
- (1) Unless otherwise agreed to by the Board of County Commissioners, the cost and responsibility of maintaining common facilities and

greenway land shall be borne by the property owner, homeowners' association, or conservation organization.

- (2) The applicant shall, at the time of preliminary plan submission, provide a Plan for Maintenance of Greenway Lands and Operation of Common Facilities in accordance with the following requirements.
 - (i) The Plan shall define ownership;
 - (ii) The Plan shall establish necessary regular and periodic operation and maintenance responsibilities for the various kinds of open space (i.e. wetlands, playing fields, meadow, pasture, ~~erepland~~, woodlands, etc.);

Unique on-site infrastructure utilized for storm volume reduction or water quality treatment shall be incorporated into the Plan;
 - (iii) The Plan shall estimate staffing needs, insurance requirements, and associated costs, and define the means for funding the maintenance of the greenway land and operation of any common facilities on an on-going basis. Such funding plan shall include the means for funding long-term capital improvements as well as regular yearly operating and maintenance costs. ;
 - (iv) At the County's discretion, the applicant may be required to escrow sufficient funds for the maintenance and operation costs of common facilities for up to one year; and,
 - (v) Any changes to the maintenance plan shall be approved by the Board of County Commissioners.
- (3) In the event that the organization established to maintain the greenway lands and the common facilities, or any successor organization thereto, fails to maintain all or any portion thereof in reasonable order and condition, the County may assume responsibility for maintenance, in which case any escrow funds may be forfeited and any permits may be revoked or suspended.
- (4) The County may enter the premises and take corrective action, including extended maintenance. The costs of such corrective action may be charged to the property owner, homeowners association, conservation organization, or individual property owners who make up a homeowners' association and may include administrative costs and penalties. Such costs shall become a lien on said properties and filed by the County as appropriate.

09:00 AM 12/19/03

Chapter 35 SUBDIVISION REGULATIONS

* - Indicates no change or addition to existing text.

New language is underlined

Sec. 35.12. Review of development plan.

- (a) Purpose. The purpose of the development plan is to provide for an initial review of the development proposal and the basic development concepts prior to proceeding with the detailed phases of preliminary plan. The developer will provide a concise statement and description of the development proposal. The expenses for engineering studies, surveying, legal information, and planning studies will not be necessitated at this stage. At the applicant's option, the development plan process may be by-passed and the project may proceed directly to preliminary plan review. Conservation Village applications are required to submit a development plan for review and approval using the 4-step design process.

*

- (3) If significant problems with the design layout or physical properties with the site are indicated, the development review committee may require that the subdivider provide additional information as it deems necessary before making a decision on the development plan as submitted. For Conservation Village applications, a site visit by development review committee representatives with the applicant is required.

*

- (5) The development review committee, with the concurrence of the district county commissioner, will make the decision to approve, subject to specific changes, or disapprove the development plan. If the subdivider disagrees with the decision rendered by the development review committee, or, if he disagrees with any requested changes or restrictions, he may appeal to the planning and zoning commission by filing a written letter detailing each specific fact or situation relative to the appeal. ~~In the case of a Conservation Village application, the applicant may request discussion of the development plan with the Board to gather additional information prior to development of a preliminary plan.~~ Approval of the development plan shall authorize the subdivider to prepare the preliminary plan.

*

Sec. 35.13. Review of preliminary plan.

*

Sec. 35.14. Review of final plat.

*

Sec. 35.15. Recording of final plat.

*

Sec. 35.16. Home construction prior to plat recording.

*

Secs. 35.17--35.30. Reserved.

PART 3. RESERVED

Secs. 35.31--35.40. Reserved.

PART 4. REQUIRED SUBMITTALS

Sec. 35.41. Purpose.

*

Sec. 35.42. Required submittals for development plan.

The development plan shall be drawn at a reasonable scale (one (1) inch to one hundred (100) feet), submitted in nine (9) copies, and shall show the following:

*

(f) Soils.

- (1) Soil classification map drawn on the face of the plan for comparison with proposed development activities. Indicate soil classifications on the plat as identified by the United States Department of Agriculture Soil Conservation Service in the "Seminole County Soil Survey" and "Soil Survey Supplement." An applicant may challenge this designation by securing competent expert evaluation, at the applicant's own expense, demonstrating that the identified soils are not classified correctly. If said determination is concurred in by the development review manager, the soils shall be correctly identified for the purpose of this chapter.

- (2) Soil analysis by a qualified soil engineer shall be furnished, upon request of the development review manager, for submittal with preliminary plat.

(g) Topography. As delineated by the United States Geological Survey Maps will be adequate.

(h) Other natural features. Including lakes, wetlands, water courses, and other pertinent features. Tree cover will be compared with road locations, but no submittals will be necessary at this stage. Seminole County wetlands maps or aerial photography interpretation may be utilized for wetlands delineation.

- (i) Limits of floodplain. Indicate flood elevation, drawn on the face of the plan, for 100-year flood as established by the United States Geological Survey Map series entitled, "Map of Flood Prone Areas," or the "Flood Insurance Rate Map (FIRM)." An applicant may challenge this designation by securing competent expert evaluation, at the applicant's own expense, demonstrating that the property does not fall within the designated flood delineation. If said expert determines that the property in question is not within a flood-prone area, and said determination is concurred in by the Seminole County Engineer or his designee, said property shall be designated as nonflood-prone for the purpose of this chapter.
- (j) Utilities. Proposed source of water and sewer and method of addressing storm drainage.
- (k) Sketch Existing Resources and Site Analysis Map. Applicants or developers considering Conservation Village design shall present a sketch analysis including items (f) through (i) of this section as well as the following:
 - (1) Prominent views into the site from public roads, parks or other areas of public interest.
 - (2) Historically or culturally significant sites or structures including those that are protected as well as those of interest for potential preservation or utilization.
 - (3) Easements or restrictions that apply to the site.
- (l) Sketch Four Step Design Process for Conservation Village Design. Applicants or developers considering Conservation Village design shall present one or more sketches that present the four step process utilized in developing a Conservation Village.
 - (1) Greenway Lands
 - (i) The minimum acreage of required greenway lands shall be calculated as per requirements set forth in Section 30.1322 and submitted as part of the Development Plan.
 - (ii) Proposed greenway lands shall be designated using the Existing Resources and Site Analysis Plan as a base map and complying with Section 30.1322 and Section 30.1324 of the Land Development Code. Primary Conservation Areas shall be delineated comprising floodplains, wetlands and other natural areas in which development is prohibited.
 - (iii) In delineating Secondary Conservation Areas, the applicant shall prioritize natural and cultural resources on the site in terms of their highest to least suitability for inclusion in the proposed Greenway as determined by the applicant or developer. Consideration for conservation should be given to context, viewsheds, further protection of Primary Conservation Areas, interconnectivity, and minimum greenway land requirements.

- (2) House Sites. Potential house sites shall be tentatively located, using the proposed greenway lands as a base map as well as other relevant data on the Sketch Existing Resources and Site Analysis Plan such as topography and soils. House sites should generally be located not closer than 100 feet from Primary Conservation Areas and 50 feet from Secondary Conservation Areas, taking into consideration the potential negative impacts of residential development on such areas as well as the potential positive benefits of such locations to provide attractive views and visual settings for residences.
- (3) Streets and Trails. Upon designating the house sites, a street plan shall be designed to provide vehicular access to each house following Seminole County Transportation Standards. Impacts of the street plan on proposed greenway lands shall be minimized, particularly with respect to crossing environmentally sensitive areas such as wetlands and wildlife habitat.
- (4) Lot Lines. Upon completion of the preceding three steps, lot lines are drawn as required to delineate the boundaries of individual residential lots.

Sec. 35.43. Required submittals for preliminary plan.

Required submittals for the preliminary plan shall consist of a plat, preliminary engineering drawings, and other auxiliary submittals as herein stated.

*

- (6) Public open space and easements. Existing park lands, lakes, waterways and wetlands within the tract to be subdivided shall be shown. Existing public easements shall be shown on the plat. The purpose for such easement shall be indicated. Additionally, preliminary plans for Conservation Village design shall delineate greenway lands to be preserved under conservation easement.

*

- (13) Homeowners association. All developments whose submitted plan indicates the existence of one (1) or more areas to be held in common by the property owners shall have established and maintained a homeowners association membership in which will be required for all purchasers of lots or parcels of land within the plat. Said association shall be established by the developer at the time, and as a condition, of platting and shall be acceptable to county. Upon request of the developer and a showing of undue hardship, the board of county commissioners, at its sole discretion, may waive the requirement of this provision. When the applicant seeks approval utilizing Conservation Village design, the homeowner's association documents

shall be required prior to approval of a preliminary plan. The document, at minimum, shall include the following:

- i) A description of all lands and facilities to be owned by the homeowners association. This description shall include a map of the proposal highlighting the precise location of those lands and facilities.
 - ii) Statements setting forth the powers, duties, and responsibilities of the homeowners association, including the services to be provided.
 - iii) A Declaration of Covenants, Conditions, and Restrictions, giving perpetual easement to the lands and facilities owned by the homeowners association. The Declaration shall be a legal document which also provides for automatic association membership for all owners in the subdivision or land development and shall describe the mechanism by which owners participate in the association, including voting, elections, and meetings. Furthermore, it shall give power to the association to own and maintain the common property and to make and enforce rules.
 - iv) Statements prescribing the process by which homeowners association decisions are reached and setting forth the authority to act.
 - v) Statements requiring each owner within the subdivision or land development to become a member of the homeowners association.
 - vi) Statements setting cross covenants or contractual terms binding each owner to all other owners for mutual benefit and enforcement.
 - vii) Requirements for all owners to provide a pro rata share of the cost of the operations of the homeowners association.
 - viii) A process of collection and enforcement to obtain funds from owners who fail to comply.
 - ix) A process for transition of control of the homeowners association from the developer to the unit owners.
 - x) Statements describing how the lands and facilities of the homeowners association will be insured, including limit of liability.
 - xi) Provisions for the dissolution of the homeowners association, in the event the Association should become in viable.
- (14) Formal Existing Resources and Site Analysis Map. Applicants or developers considering Conservation Village design shall present a detailed analysis of the existing resources that improves upon the Sketch Existing Resources and Site Analysis Map required for approval of a development plan. The Existing Resources and Site Analysis Map shall be accompanied by a vertical aerial photograph to a scale of not less than one (1) inch equals four hundred (400) feet.
- (15) Formal Four Step Design Process for Conservation Village Design. Applicants or developers considering Conservation Village design shall

present an updated four step process based upon the sketch submission for development plan review. Upon request of the Planning Commission, the applicant shall be prepared to submit four separate maps indicating the findings of each step of the design process.

- (16) Density and Open Space. An applicant submitting a preliminary plan for approval as a Conservation Village shall provide figures indicating total acreage to be preserved, net acreage available for development, initial number of anticipated units, density bonuses sought, recaptured space and units as a result of clustering as per Section 30.1323, estimated total number of units and number of units per acre.
- (17) Greenway Ownership and Management Plan. Conservation Village design applicants shall submit a preliminary Greenway Ownership and Management Plan detailing the entities responsible for maintaining various elements of the property, and describing fiscal and physical management objectives and techniques for each part of the property.
- (18) Preliminary Resource Impact and Conservation Plan. An applicant seeking approval of a Conservation Village design must present a plan to address impacts of proposed land development alterations on critical resources indicated as part of the Existing Resources and Site Analysis Map. All proposed improvements, including but not necessarily limited to grading, fill, streets, buildings, utilities and stormwater detention/retention facilities, as proposed in the Preliminary Plan shall be taken into account in preparing the Preliminary Resource Impact and Conservation Plan, which shall clearly demonstrate that the applicant has minimized site disturbance to the greatest extent practicable. This requirement may be waived by the Planning Commission if the proposed development areas, as laid out in the preliminary plan would, at maximum, cause no more than an insignificant impact upon the site's resources.

Sec. 35.44. Required submittals for final plat.

The required submittals, meeting the legal requirements of platting, of the final plan shall consist of a fully executed correct plat map, meeting all state and county standards, final engineering drawings and auxiliary submittals, and all required legal instruments.

- (f) Other Required Submittals.

- (6) Conservation Village Requirements. Applicants seeking approval of a Conservation Village design shall additionally provide the following as amended for final approval:

- (i) Final Existing Resources and Site Analysis Plan.
- (ii) Final Resource Impact and Conservation Plan.
- (iii) Final Greenway Ownership and Management Plan

Secs. 35.45--35.50. Reserved.

PART 5. RESERVED

Secs. 35.51--35.60. Reserved.

PART 6. DESIGN STANDARDS

Sec. 35.61. General.

*

Sec. 35.62. Streets.

*

- (g) Street design in Conservation Village projects will be consistent with the design approved in Four Step Design Process described in Sec. 35.42. (l).

Sec. 35.63. Blocks.

*

- (e) Block design in Conservation Village projects will be consistent with the design approved in Four Step Design Process described in Sec. 35.42. (l).

Sec. 35.64. Lots.

*

- (d) Lot design in Conservation Village projects will be consistent with the design approved in Four Step Design Process described in Sec. 35.42. (l).

Sec. 35.65. Easements.

*

Sec. 35.66. Drainage systems.

*

Sec. 35.67. Phased development.

*

Sec. 35.68. Water and sewer.

*
Sec. 35.69. Fire flow and hydrant requirements.

*
Sec. 35.70. Decorative entrances.

*
Sec. 35.71. Fences, buffers and berms.

- *
(f) Buffers shall be suitably landscaped either by retaining existing natural cover and wooded areas and/or according to a landscaping plan to protect resources identified in the Existing Resources and Site Analysis Map.
- (g) Buffers along exterior roadways shall include a meandering sidewalk or trail suitable for joint use of pedestrians and bicycles and/or according to the Existing Resources and Site Analysis Map.
- (h) Fences along exterior roadways will be no more than 25% opaque, constructed from natural materials and excluding concrete, block, brick and stucco, enhance the open character and facilitate the viewsheds from the roadway according to the Existing Resources and Site Analysis Map.

Sec. 35.72. Rural subdivision standards.

*
Sec. 35.73 Greenway Design

- (a) Prioritized List of Resources to be Preserved. The design of greenway lands in any Conservation Village shall, to the fullest extent possible, incorporate any of the following resources if they occur on the tract (listed in order of significance):
- (1) Stream channels, floodplains, wet soils, swales, springs and other lowland areas, including adjacent buffer areas which may be required to insure their protection.
- (2) Significant natural areas of species listed as endangered, threatened, or of special concern, such as those listed in the Statewide Natural Diversity Inventory.
- (3) Healthy woodlands, particularly those performing important ecological functions such as soil stabilization and protection of streams, wetlands and wildlife habitats.
- (4) Areas where precipitation is most likely to recharge local groundwater resources because of topographic and soil conditions affording high rates of infiltration and percolation.

- (5) Hedgerows, groups of trees, large individual trees of botanic significance, and other vegetation features representing the site's rural past.
- (6) Historic structures and sites.
- (7) Visually prominent topographic features such as scenic viewsheds as seen from public roads (particularly those with historic features).
- (8) Existing trails connecting the tract to other locations in the county.
- (b) Other Design Considerations. The configuration of proposed greenway lands set aside for common use in Conservation Village design shall comply with the following standards:
 - (1) They shall be free of all structures except historic buildings, stone walls, and structures related to greenway uses. The Board of County Commissioners may grant approval of structures and improvements required for storm drainage, sewage treatment and water supply within the greenway provided that such facilities would not be detrimental to the greenway.
 - (2) They shall generally not include parcels smaller than three acres, have a length-to-width ratio of less than 4:1, or be less than 75 feet in width, except for such lands specifically designed as neighborhood greens, playing fields or trail links.
 - (3) They shall be directly accessible to the largest practicable number of lots within the subdivision. Non-adjoining lots shall be provided with safe and convenient pedestrian access to greenway land.
 - (4) They shall be suitable for Neighborhood open space and similar low-impact passive recreation and active non-commercial recreational uses as described in 30.1234 (5) and (6) to the extent deemed necessary by the Governing body, without interfering with adjacent dwelling units, parking, driveways, and roads.
 - (5) They shall be interconnected wherever possible to provide a continuous network of greenway lands within and adjoining the Conservation Village.
 - (6) They shall provide buffers to adjoining parks, preserves or other protected lands.
 - (7) They shall provide for pedestrian pathways for use by the residents of the development. Consideration shall be given to providing for public access on such trails if they are linked to other publicly-accessible pathway systems within the county. Provisions should be made for access to the greenway lands, as required for land management and emergency purposes.
 - (8) They shall be undivided by public or private streets, except where necessary for proper traffic circulation.

(9) They shall be suitably landscaped either by retaining existing natural cover and wooded areas and/or according to a landscaping plan to protect greenway resources.

(10) They shall be made subject to such agreement with the county and such conservation easements duly recorded in the office of the County Recorder of Deeds as may be required by the Governing body for the purpose of preserving the common open space for such uses.

Secs. 35.74--35.80. Reserved.

*

PART 7. RESERVED

Secs. 35.81--35.90. Reserved.

PART 8. REQUIRED IMPROVEMENTS

Sec. 35.91. General.

*

Sec. 35.92. Inspections and tests.

*

Sec. 35.93. Monuments.

*

Sec. 35.94. Permanent control points.

*

Sec. 35.95. Utility lines.

*

Sec. 35.96. Sewer and water.

*

Sec. 35.97. Drainage.

*

Sec. 35.98. Curbs and gutters.

*

Sec. 35.99. Roadways.

*

Secs. 35.100--35.110. Reserved.

*

PART 9. RESERVED

Secs. 35.111--35.120. Reserved.

PART 10. VARIANCES, EXCEPTIONS, AND APPEALS

Sec. 35.121. Variances.

*

Sec. 35.122 Minor plat approval; criteria.

*

Sec. 35.123. Appeals.

*

Secs. 35.124--35.130. Reserved.

PART 11. RESERVED

Secs. 35.131--35.140. Reserved.

PART 12. RESERVED

Secs. 35.141--35.150. Reserved.

PART 13. RECORDING OF FINAL PLAT

Sec. 35.151. Recording final plat.

*

Sec. 35.152. No recordation if not approved by board of county commissioners or governing body of municipality.

*

Secs. 35.153--35.160. Reserved.

PART 14. RESERVED

Secs. 35.161--35.170. Reserved.

PART 15. RESERVED

Secs. 35.171--35.180. Reserved.

PART 16. VACATING OF PLATS, REPLATS, AND CORRECTION OF ERRORS

Sec. 35.181. Vacating of plats.

*

Sec. 35.182. Replats and resubdivision.

*

Sec. 35.183. Corrective plats.

*

Sec. 35.184. Vacating of rights-of-way and easements.

*

Secs. 35.185--35.190. Reserved.

PART 17. RESERVED

Secs. 35.191--35.200. Reserved.

PART 18. ENFORCEMENT PROVISIONS

Sec. 35.201. General.

*

Sec. 35.202. Required improvements.

*

Sec. 35.203. Violation.

*

Secs. 35.204--35.210. Reserved.

PART 19. AMENDMENTS

Sec. 35.211. Amendments to subdivision regulations.

*

Secs. 35.212--35.220. Reserved.

PART 20. LEGAL STATUS

Sec. 35.221. Saving clause.

*

Sec. 35.222. Interpretation.

*

Sec. 35.223. Effective date.

11:00 AM 12/19/03

What Low Impact Development (LID)?

Ever wish you could simultaneously lower your site infrastructure costs, protect the environment, and increase your project's marketability? With LID techniques, you can. LID is an ecologically friendly approach to site development and storm water management that aims to mitigate development impacts to land, water, and air. The approach emphasizes the integration of site design and planning techniques that conserve the natural systems and hydrologic functions of a site.



Residential Lot with Bioretention
Somerset Development
Prince George's County,
MD

LID Benefits

In addition to the practice just making good sense, LID techniques can offer many benefits to a variety of stakeholders.

Developers

- Reduce land clearing and grading costs
- Potentially reduce infrastructure costs (streets, curbs, gutters, sidewalks)
- Reduce storm water management costs
- Potentially reduce impact fees and increase lot yield
- Increase lot and community marketability

Municipalities

- Protect regional flora and fauna
- Balance growth needs with environmental protection
- Reduces municipal infrastructure and utility maintenance costs (streets, curbs, gutters, sidewalks, storm sewer)
- Increase collaborative public/private partnerships

Environment

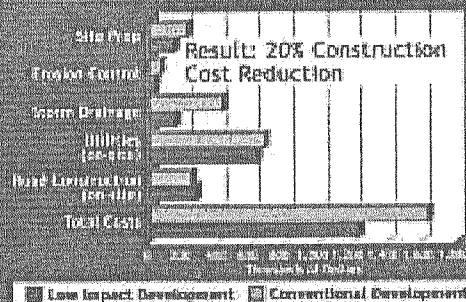
- Preserve integrity of ecological and biological systems
- Protect site and regional water quality by reducing sediment, nutrient, and toxic loads to water bodies
- Reduce impacts to local terrestrial and aquatic plants and animals
- Preserve trees and natural vegetation

Case Study

Kensington Estates is a conventional development on 24 acres consisting of 103 single-family homes in Pierce County, WA. A study was conducted to redesign the site using a new state storm water model and to illustrate the full range of LID practices and technologies available to developers.

Overall, the redesigned LID site could have:

- Resulted in construction cost savings of over 20%;
- Preserved 62% of the site in open space;
- Maintained the project density of 103 lots;
- Reduced the size of storm pond structures and eliminated catchments and piped storm conveyances; and
- Achieved "zero" effective impervious surfaces.



Cost Comparison: LID vs. Conventional Development

For More Information

- Low Impact Development Center
<http://www.lowimpactdevelopment.org>
- Prince George's County, Maryland
<http://www.goprincegeorgescounty.com>
- NAHB Research Center Toolbase Services
<http://www.toolbase.org>
- U.S. EPA
<http://www.epa.gov/owow/nps/urban.html>



Builder's Guide to Low Impact Development

Would you be interested in saving upwards of \$70,000* per mile in street infrastructure costs by eliminating one lane of on-street parking on residential streets?

Did you know that communities designed to maximize open space and preserve mature vegetation are highly marketable and command higher lot prices?

Are you aware that most homeowners perceive Low Impact Development practices, such as bioretention, as favorable since such practices are viewed as additional builder landscaping?

Did you know that by reducing impervious surfaces, disconnecting runoff pathways, and using on-site infiltration techniques, you can reduce or eliminate the need for costly storm water ponds?

LID Planning and Design Concepts

Successful LID projects simultaneously reduce land development and infrastructure costs while protecting a property's natural resources and functions. During the development process, the designer, developer, and reviewing agency should work together to identify solutions that integrate the following concepts:

- Preserve Open Space and Minimize Land Disturbance;
- Protect and Incorporate Natural Systems (wetlands, stream/wildlife corridors, mature forests) as Design Elements;
- Utilize Neo-Traditional Street and Lot Layouts and Designs;
- Decentralize and Micromanage Storm Water at its Source Using LID Storm Water Management Practices.

LID and Storm Water Management

LID aims to mimic natural hydrology and processes by using small-scale, decentralized practices that infiltrate, evaporate, and transpire rainwater. Specifically, LID aims to:

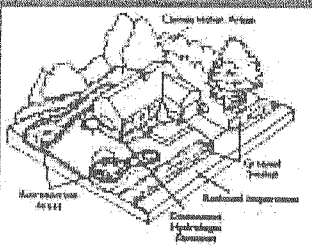
- Minimize impervious surfaces;
- Disconnect hydrologic elements (roofs, downspouts, parking areas);
- Maintain/increase flow paths and times; and
- Utilize decentralized treatment practices.

Bioretention Areas

Storm water directed to these shallow topographic depressions in the landscape is filtered, stored, and infiltrated into the ground using specialized vegetation and engineered soils.

Grassed Swales

Water moving through these systems is slowed, filtered, and percolated into the ground. These systems can act as low cost alternatives to curbs, gutters, and pipes.



LID Lot Level Source Controls

Preserve Open Space and Minimize Land Disturbance

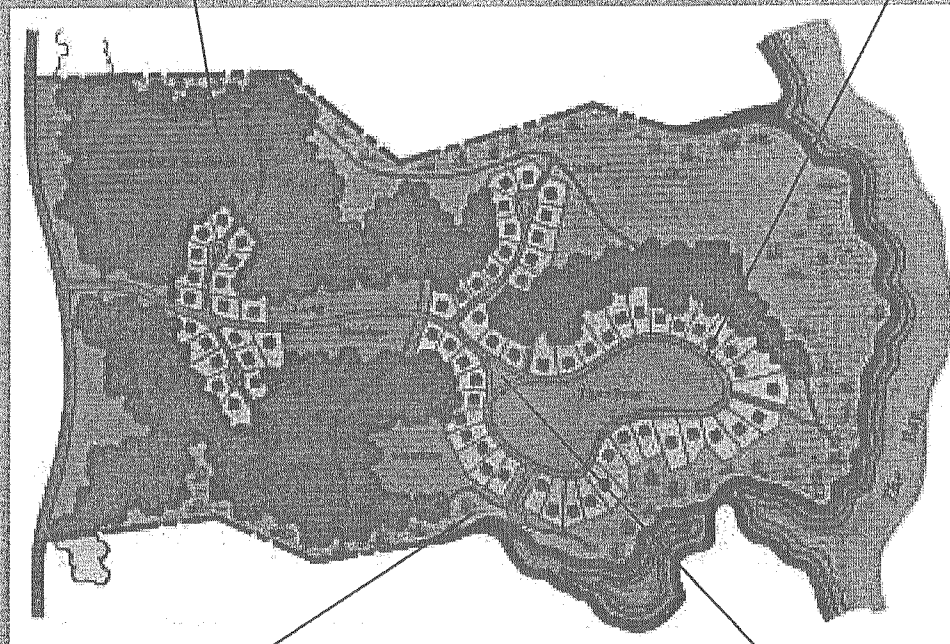


Community Open Space
Bridging Homes
Waukesha, WI

Decentralize and Micromanage Storm Water at its Source using LID Storm Water Management Practices

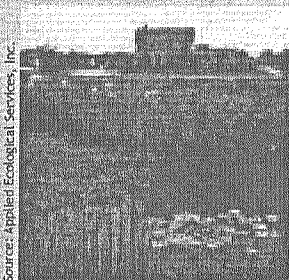


Grassed Swales
Somerset Development
Prince George's County, MD



From Conservation Design for Subdivisions: A Practical Guide to Creating Open Space Networks, by Randall G. Arendt. Copyright (C) 1996 by Island Press. Reprinted by permission of Island Press, Washington, D.C. and Covelo, CA.

Protect and Incorporate Natural Systems as Design Elements



Wetland System
Prairie Crossing
Grayslake, IL

Utilize Neo-Traditional Street and Lot Layouts and Designs



Bowman Park
Vermilion Community
Vermilion, IN